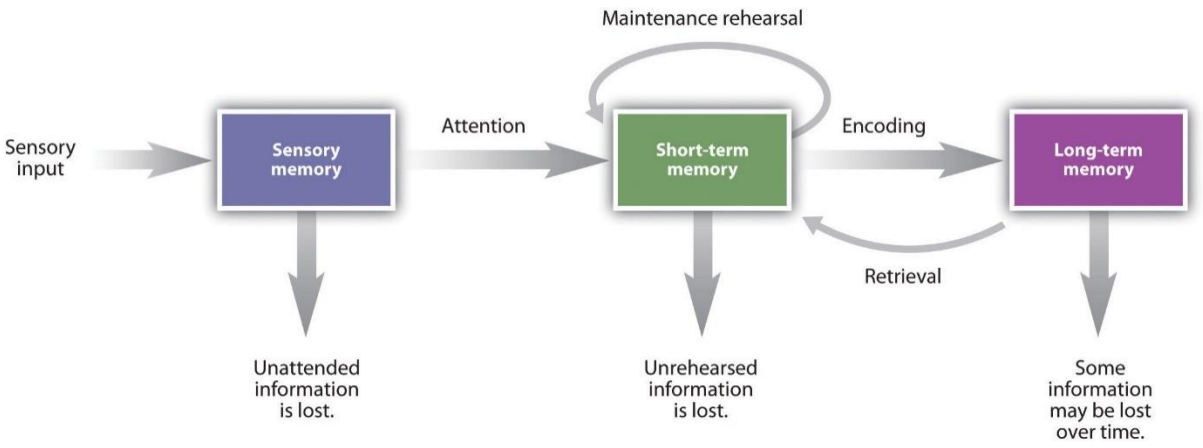
MEMORY

Memory is the means by which we retain and draw on our past experiences to use that information in the present (Tulving, 2000b; Tulving & Craik, 2000). As a process, memory refers to the dynamic mechanisms associated with storing, retaining, and retrieving information about past experience (Bjorklund, Schneider, & Hernández Blasi, 2003; Crowder, 1976). Specifically, cognitive psychologists have identified three common operations of memory: encoding, storage, and retrieval (Baddeley, 2002; Brebion, 2007; Brown & Craik, 2000). Each operation represents a stage in memory processing.



The three key processes involved in memory;

1. **ENCODING**

Encoding (getting information in), **storage** (maintaining it), and **retrieval** (getting it out).
Encoding involves forming a memory code .For example, when you form a memory code for a word, you might emphasize how it looks, how it sounds, or what it means. Encoding usually requires attention, which is why you may not be able to recall exactly what a penny looks like—most people don't pay much attention to the appearance of a penny.

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Automatic vs. Effortful Encoding

- **Automatic processing**

  Unconscious encoding of information

  Examples:

  - What did you eat for lunch today?
  - Was the last time you studied during the day or night?
  - You know the meanings of these very words you are reading. Are you actively trying to process the definition of the words?

- **Effortful processing**

  Requires attention and conscious effort

  Examples:

  - Memorizing your notes for your upcoming Introduction to Psychology exams
  - Repeating a phone number in your head until you can write it down

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There are 3 ways in which information can be encoded

- **Structural encoding** is relatively shallow processing that emphasizes the physical structure of the stimulus. For example, if words are flashed on a screen, structural encoding registers such things as how the words are printed (capital, lowercase, and so on) or their length (how many letters).
- **Phonemic encoding,** which emphasizes what a word sounds like. Phonemic encoding involves naming or saying (perhaps silently) the words.
- **Semantic encoding** emphasizes the meaning of verbal input; it involves thinking about the objects and actions the words represent.

2. SRTORAGE

Storage involves maintaining encoded information in memory over time. Psychologists have focused much of their memory research on trying to identify just what factors help or hinder memory storage. But, as the tip-of-the-tongue phenomenon shows, information storage isn't enough to guarantee that you'll remember something. You need to be able to get information out of storage.

This concerns the nature of memory stores, i.e., where the information is stored, how long the memory lasts for (duration), how much can be stored at any time (capacity) and what kind of information is held.

3. RETRIEVAL

Retrieval involves recovering information from memory stores. Research issues concerned with retrieval include the study of how people search memory and why some retrieval strategies are more effective than others.

STM is stored and retrieved sequentially. For example, if a group of participants are given a list of words to remember, and then asked to recall the fourth word on the list, participants go through the list in the order they heard it in order to retrieve the information.

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LTM is stored and retrieved by association. This is why you can remember what you went upstairs for if you go back to the room where you first thought about it.

Two most common method of retrieval

1) **Recall**: independently reproducing the information that have been previously exposed to. Example: Short answer, fill in the blanks question

- 2) **Recognition**: involves realizing that a certain stimulus event is the one that have been seen or heard before. Example: Multiple choice question

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